

BALD HEAD ISLAND SETTLEMENT MONITORING SURVEYS
REPORT 8
MAY 2006

Introduction

The 8th set of monitoring surveys for the Settlement Agreement between the Village of Bald Head Island and the United States Army Corps of Engineers was taken in May 2006. The criteria to be used in examining the surveys is to be a continuous passage through Smith Island Channel, Baldhead Shoal Channel Reach 1 and Baldhead Shoal Channel Reach 2 with a minimum bottom width of 500 feet at a depth of -42 feet mean lower low water (mllw).

Data

The 7th set of monitoring surveys taken in March 2006 is displayed in Figure 1 and is labeled March 2006 Surveys. Figure 2 is a plot of surveys taken in May 2006 and Figure 3 is a difference plot between the March and May surveys. Figure 4 is a difference plot between the January 2005 and May 2006 surveys

A plot for Smith Island Channel of the navigable widths at a depth of -42 feet mllw (navigable depth) is shown in Figures 5 and 6. MLLW is 2 inches lower than mlw at Bald Head Island. A plot of the minimum channel cross section at stations 4+00 and 25+00 are shown in Figures 7 and 8. The baselines for the cross section plots are shown in Figure 1.

A plot for Baldhead Shoal Channel Reach 1 of the navigable widths at a depth of -42 feet mllw is contained in Figures 9 and 10. Plots of the minimum channel cross sections in the vicinity of the spit at stations 21+00 and 22+00 are shown in Figures 11 and 12.

A plot for Baldhead Shoal Channel Reach 2 of the navigable widths at a depth of -42 feet mllw is contained in Figure 13 and 14. Plots of the minimum channel cross sections at stations 45+00 and 46+00 are shown in Figures 15 and 16.

Conclusion

The minimum navigable width at a depth of -42 feet mllw is 500 feet at Stations 21+00 and 22+00 in Baldhead Shoal Channel Reach 1. Points are greater than 500 feet in the other 2 channels.

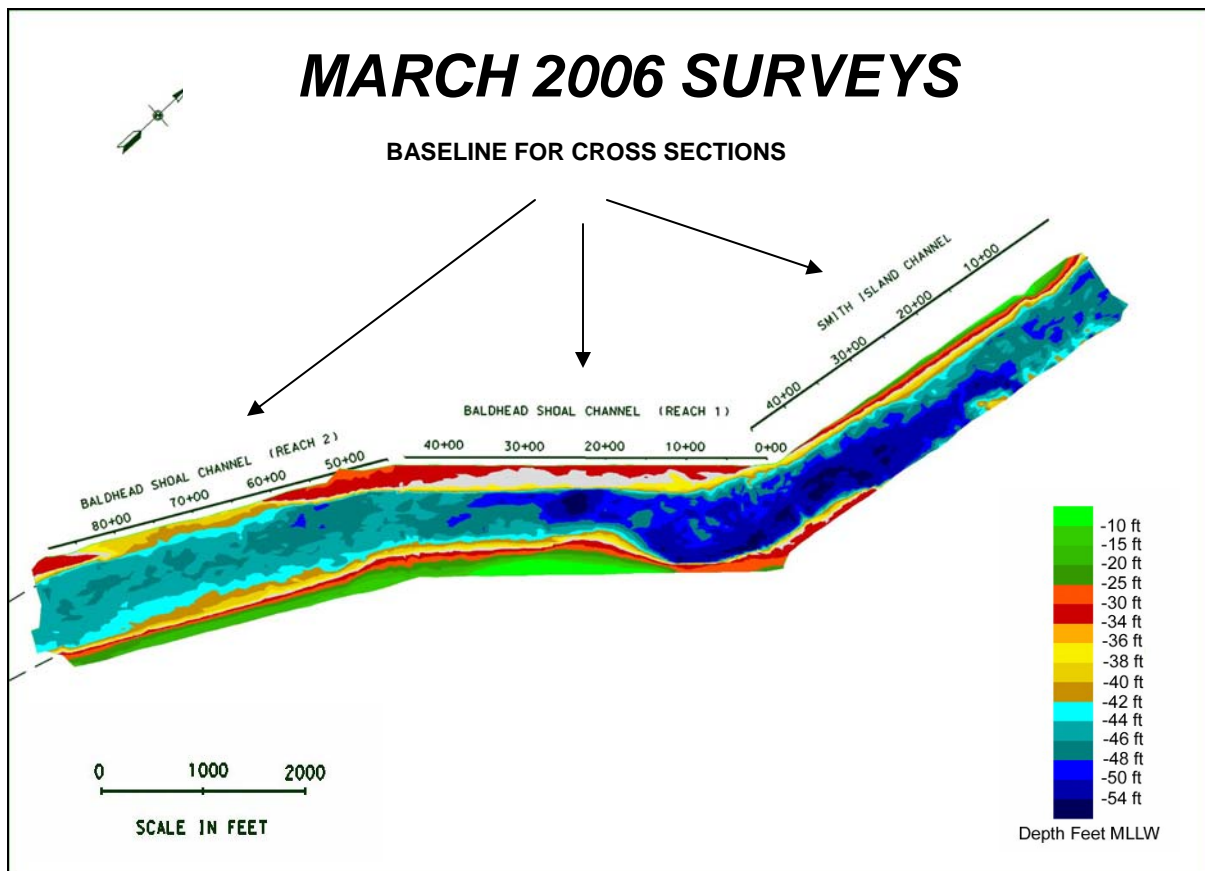


Figure 1 March 2006 Surveys

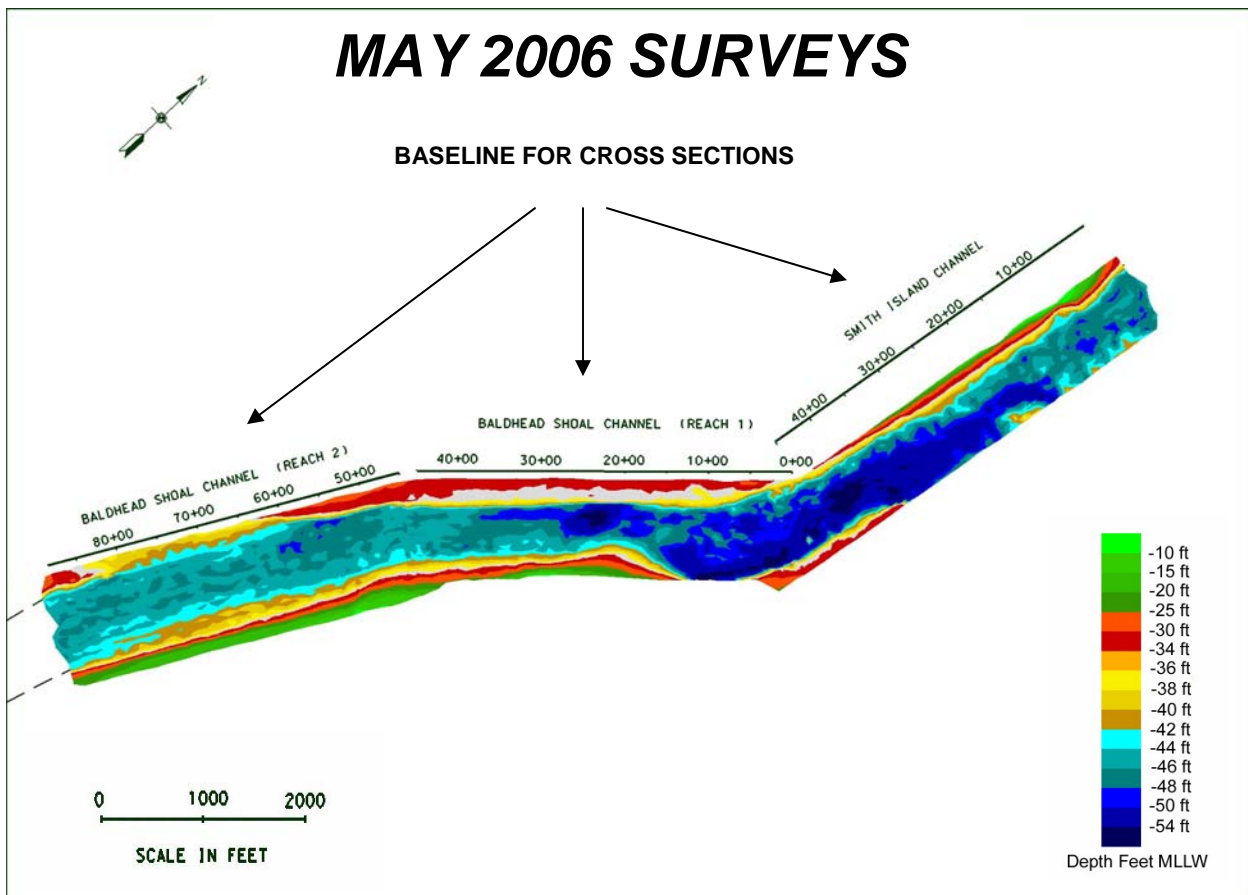


Figure 2 May 2006 Surveys

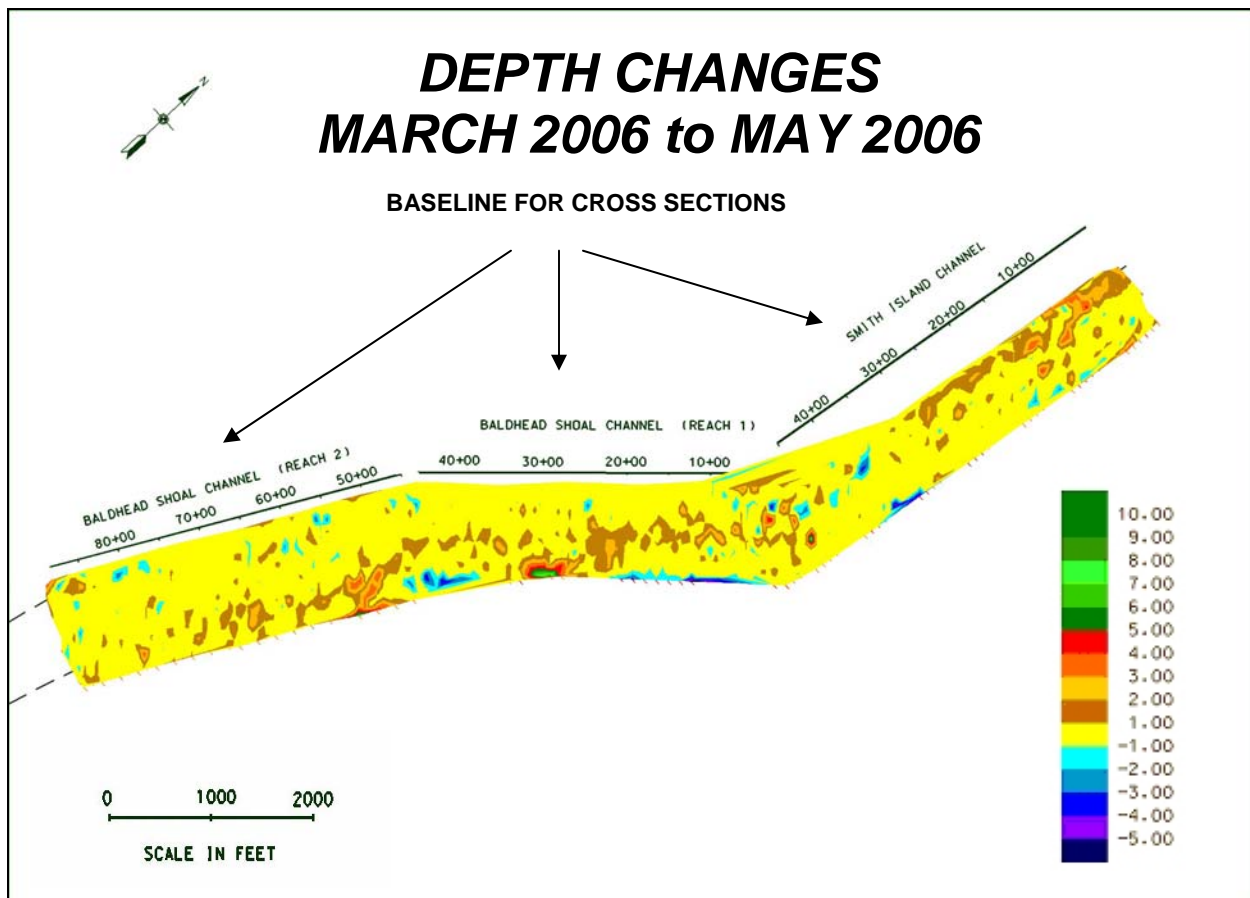


Figure 3 March 06 to May 06 Depth Changes

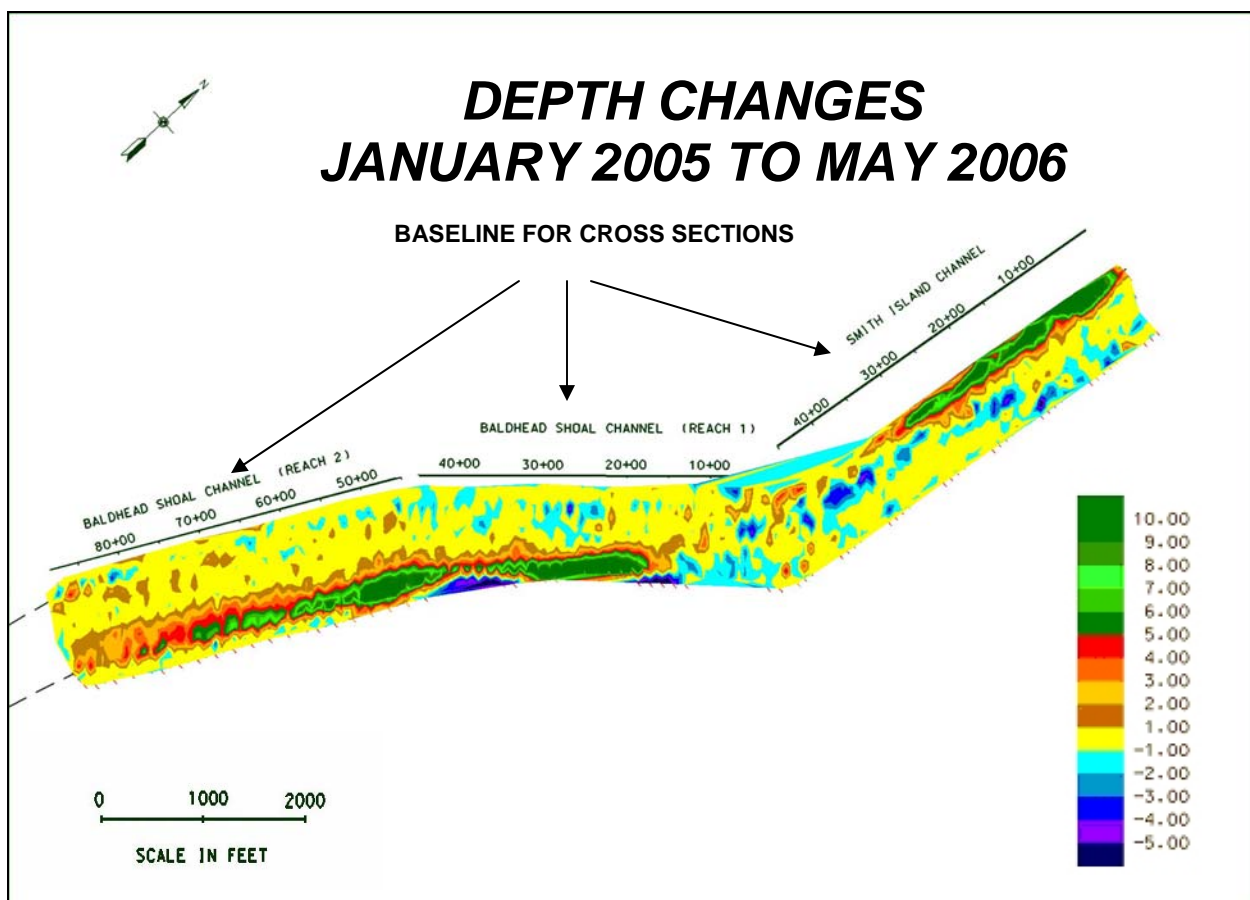


Figure 4 January 05 to March 06 Depth Changes

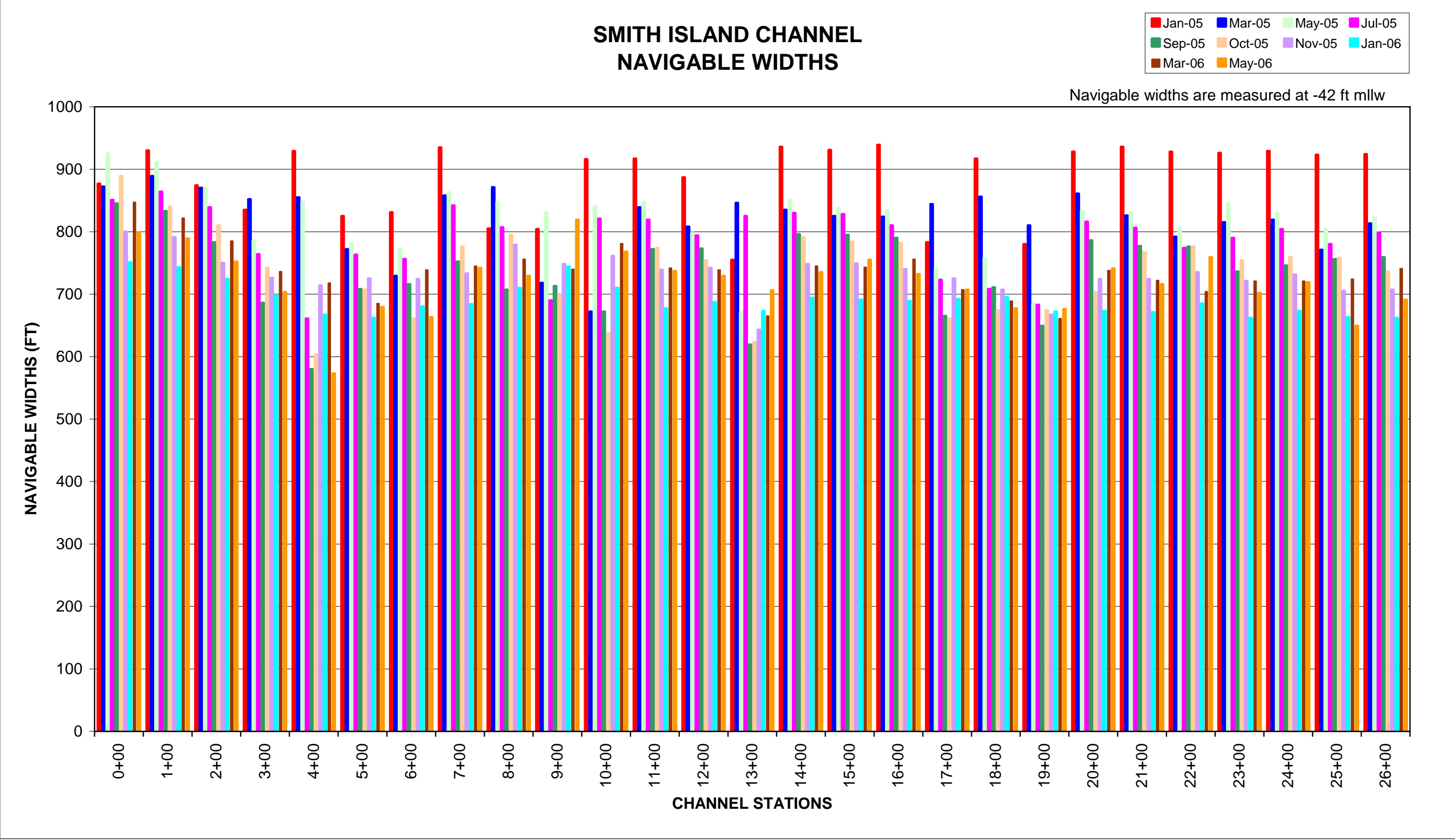


Figure 5 Smith Island Channel Navigable Widths – Stations 0+00 – 26+00

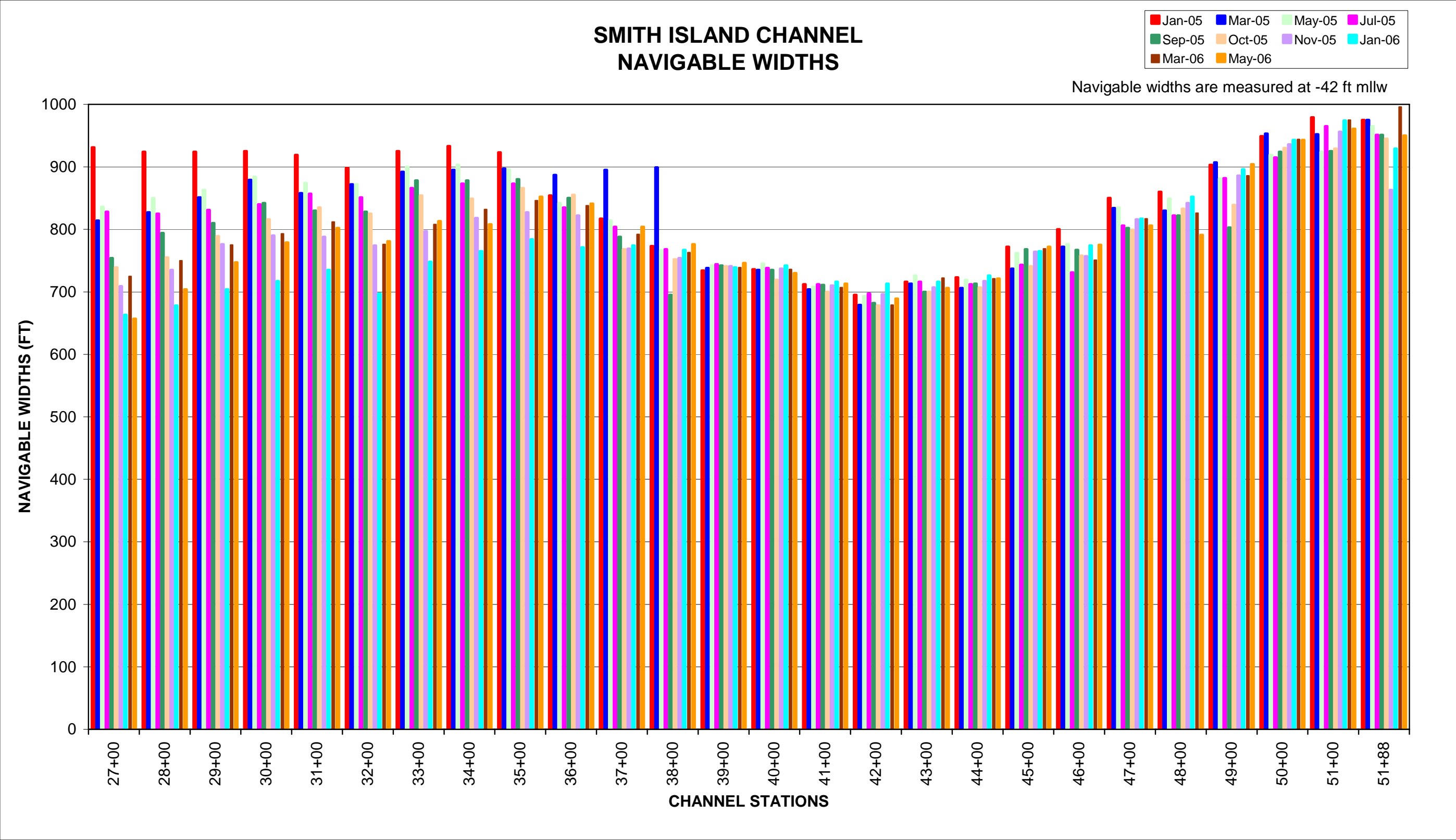


Figure 6 Smith Island Channel Navigable Widths – Stations 27+00 – 52+00

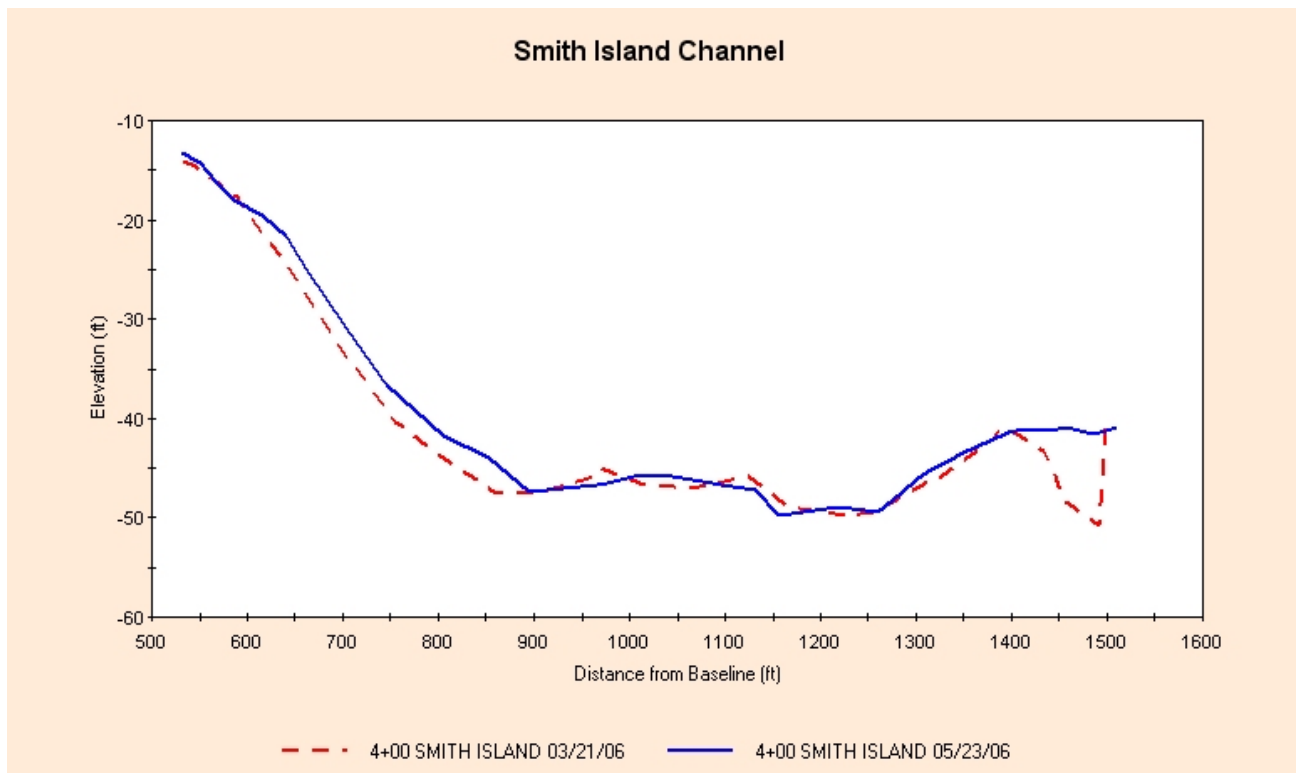


Figure 7 Smith Island Station 4+00

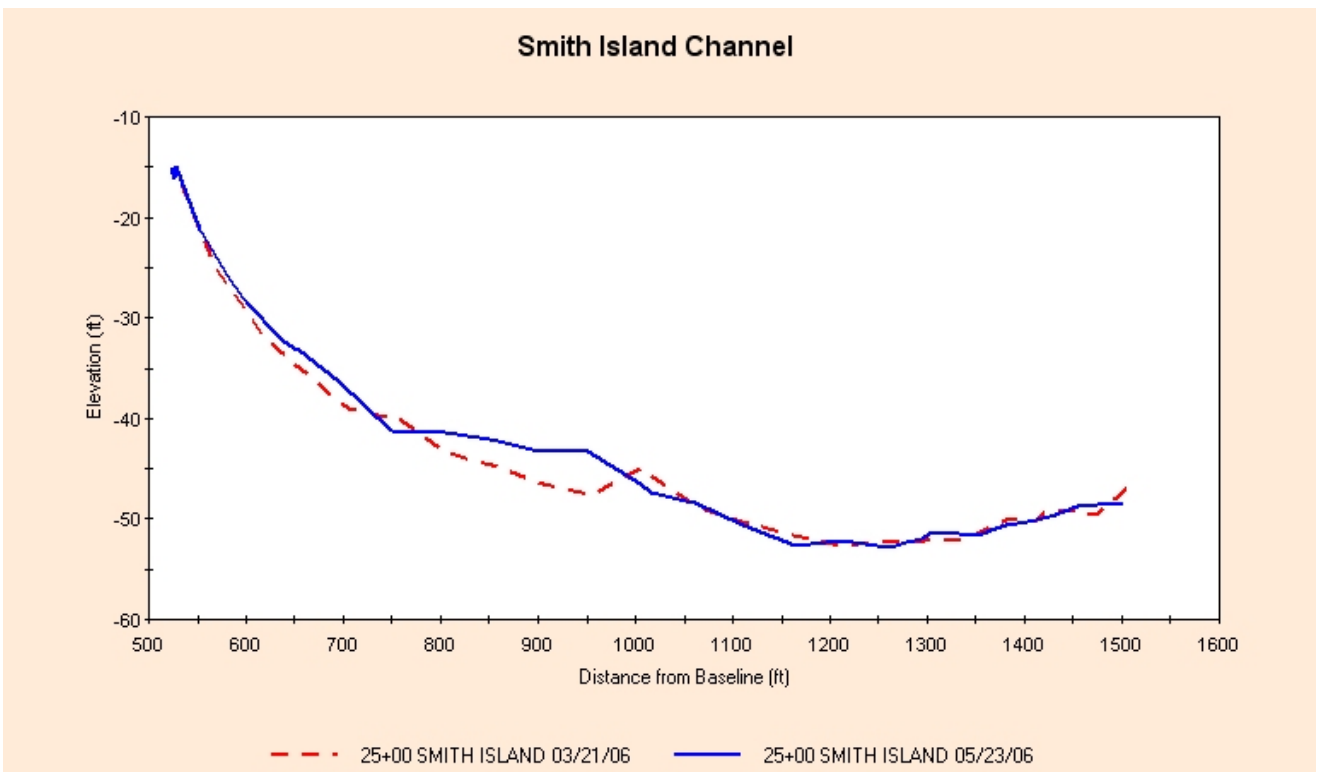


Figure 8 Smith Island Shoal Station 25+00

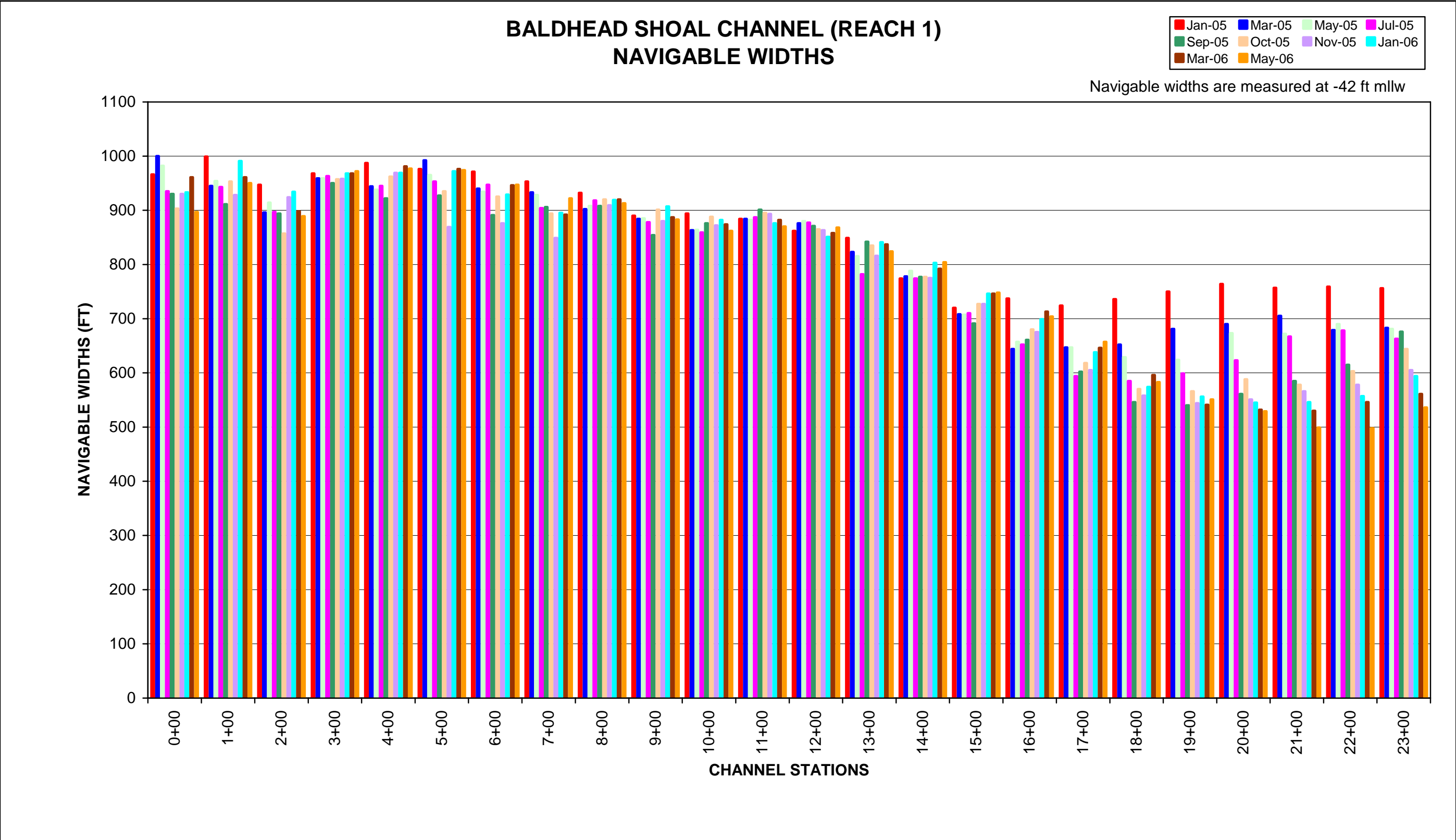


Figure 9 Baldhead Shoal Channel Reach 1 Navigable Widths – Stations 0+00 – 23+00

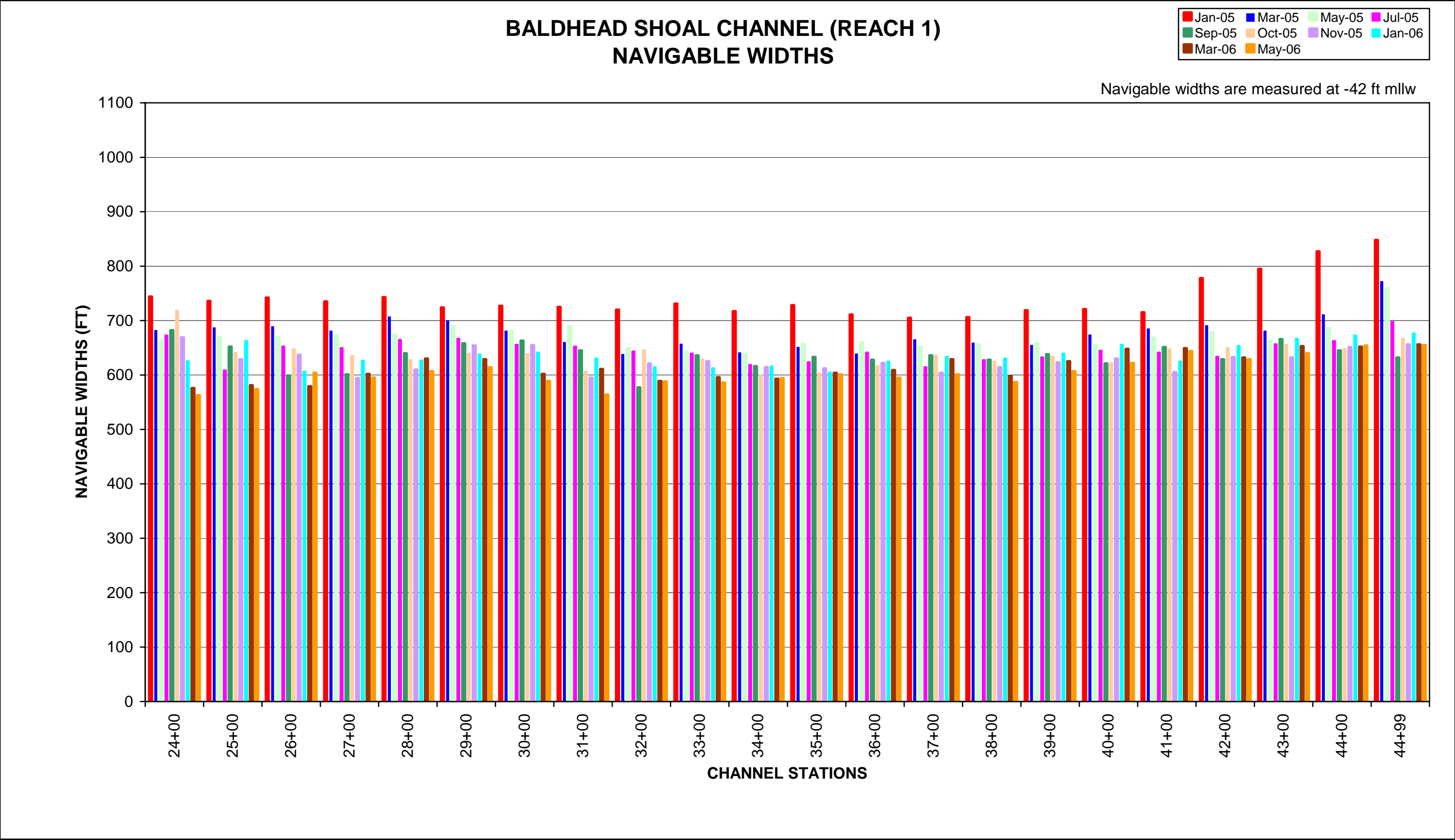


Figure 10 Baldhead Shoal Channel Reach 1 Navigable Widths – Stations 24+00 – 45+00

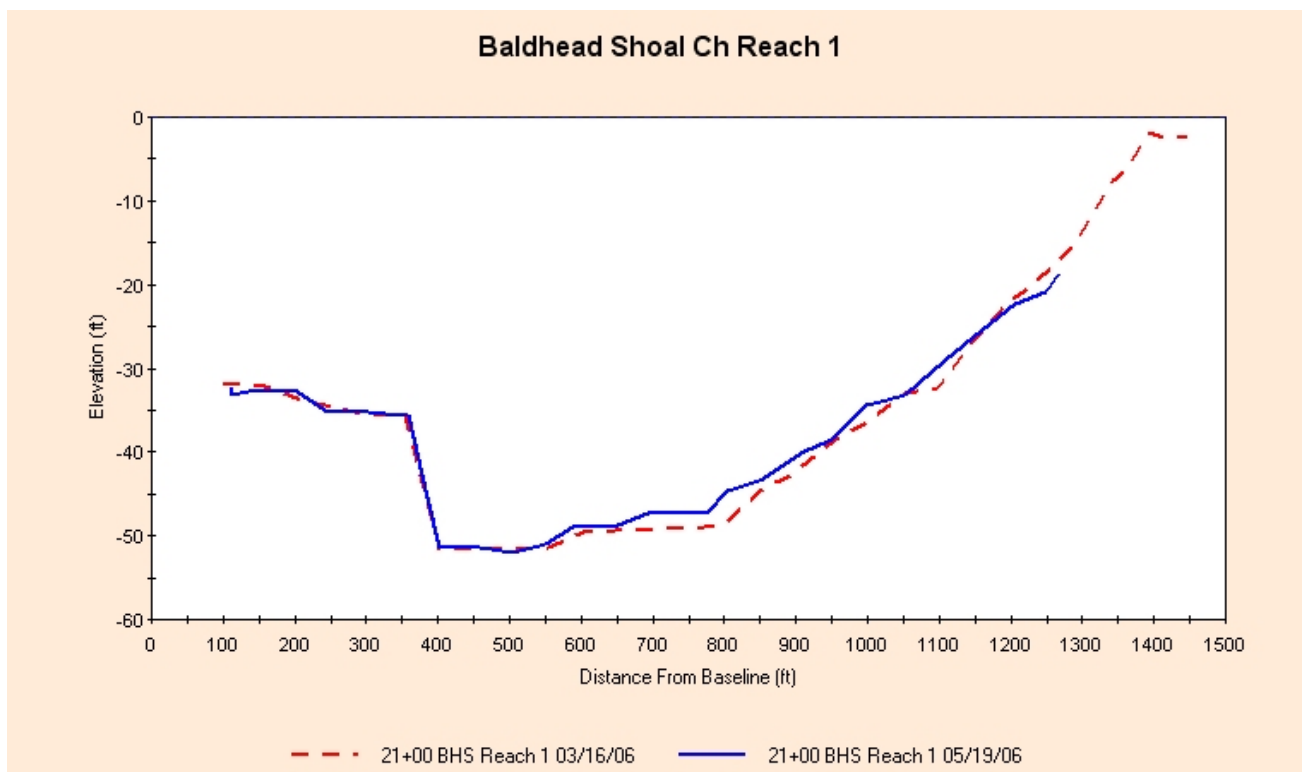


Figure 11 Baldhead Shoal Station 21+00

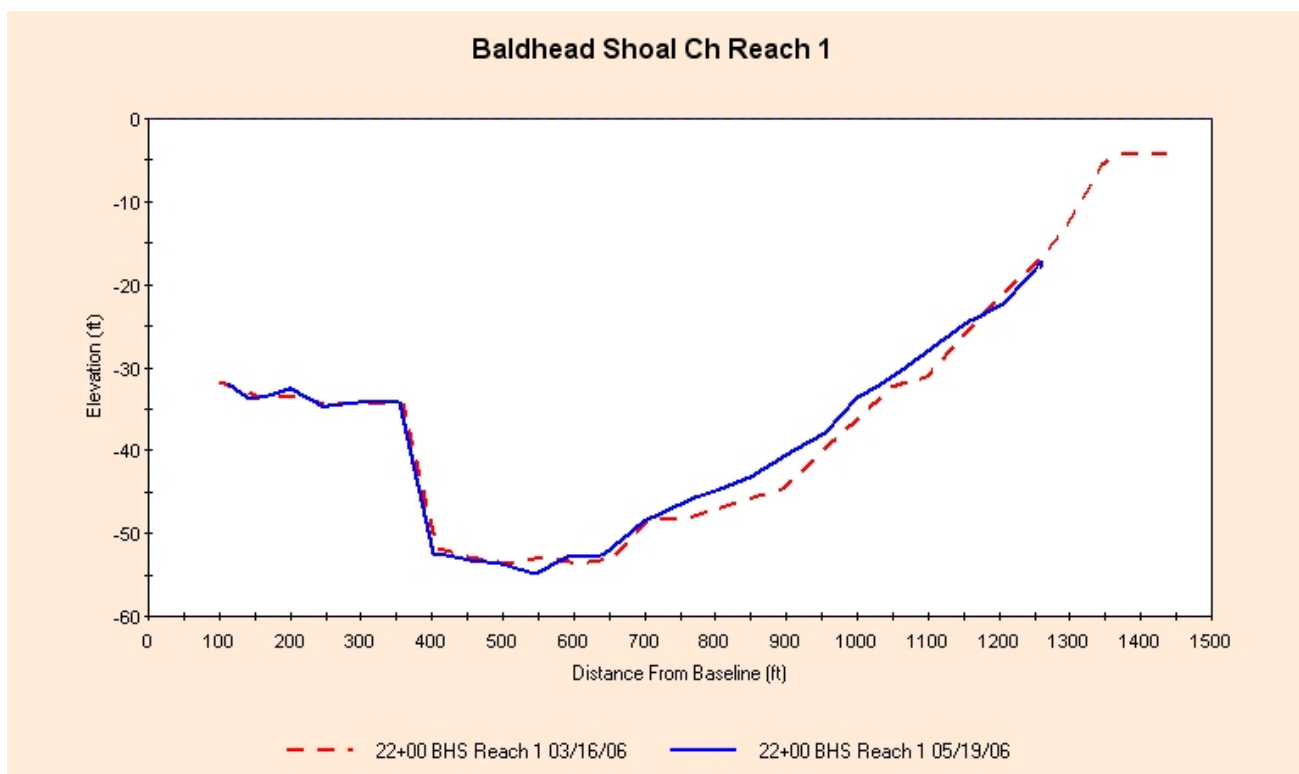


Figure 12 Baldhead Shoal Station 22+00

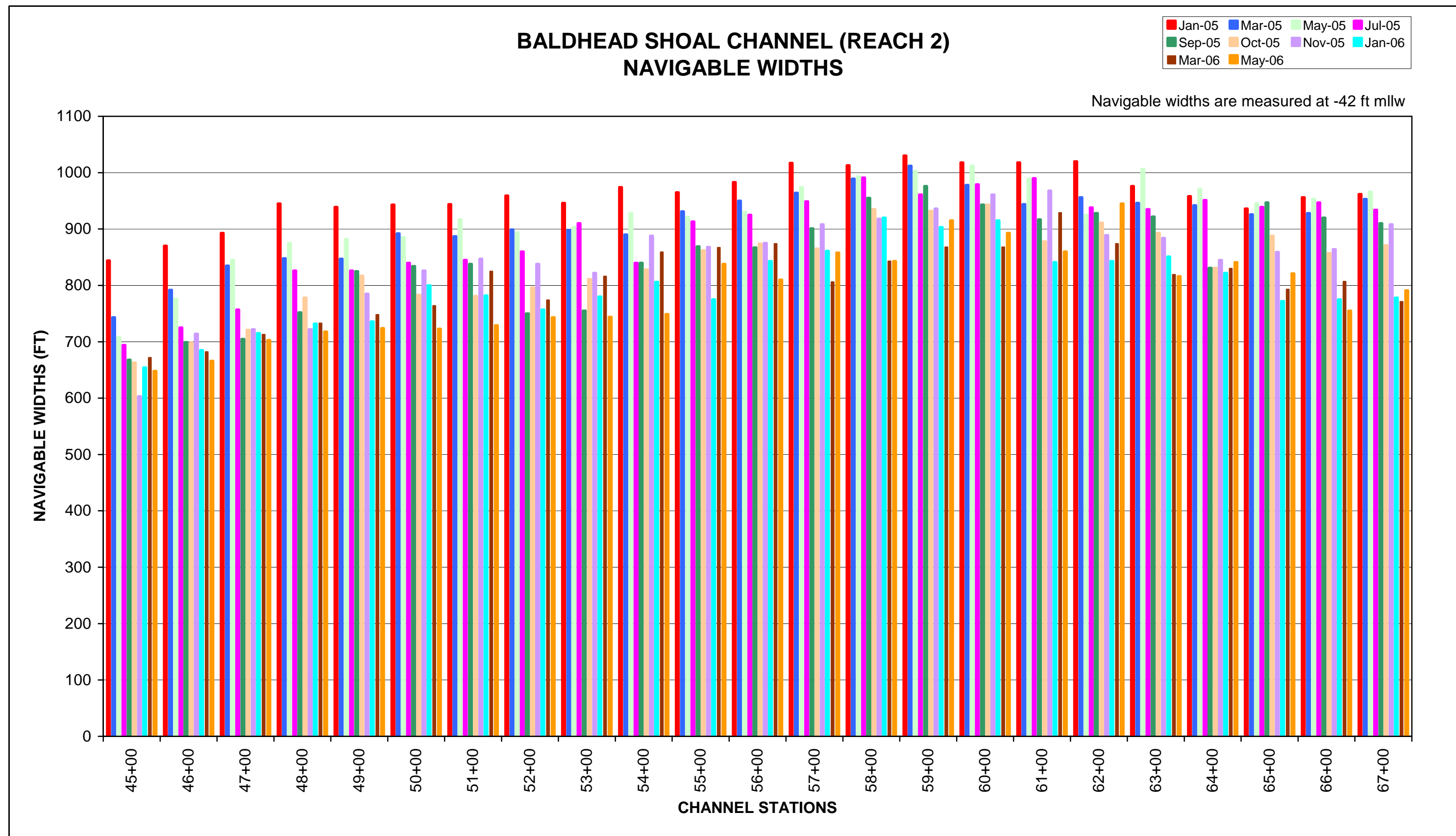


Figure 13 Baldhead Shoal Channel Reach 2 Navigable Widths – Stations 45+00 – 67+00

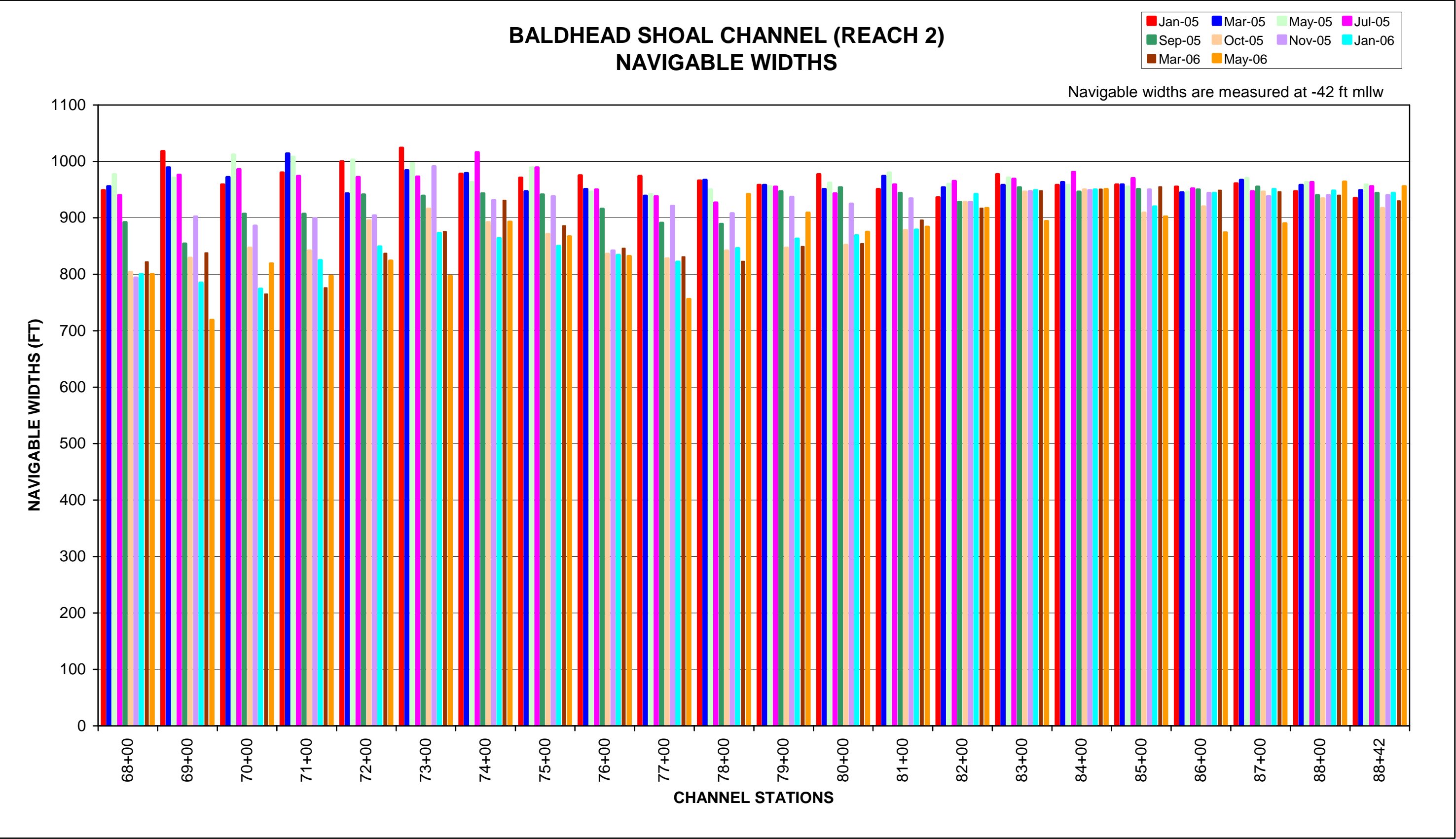


Figure 14 Baldhead Shoal Channel Reach 2 Navigable Widths – Stations 68+00 – 89+00

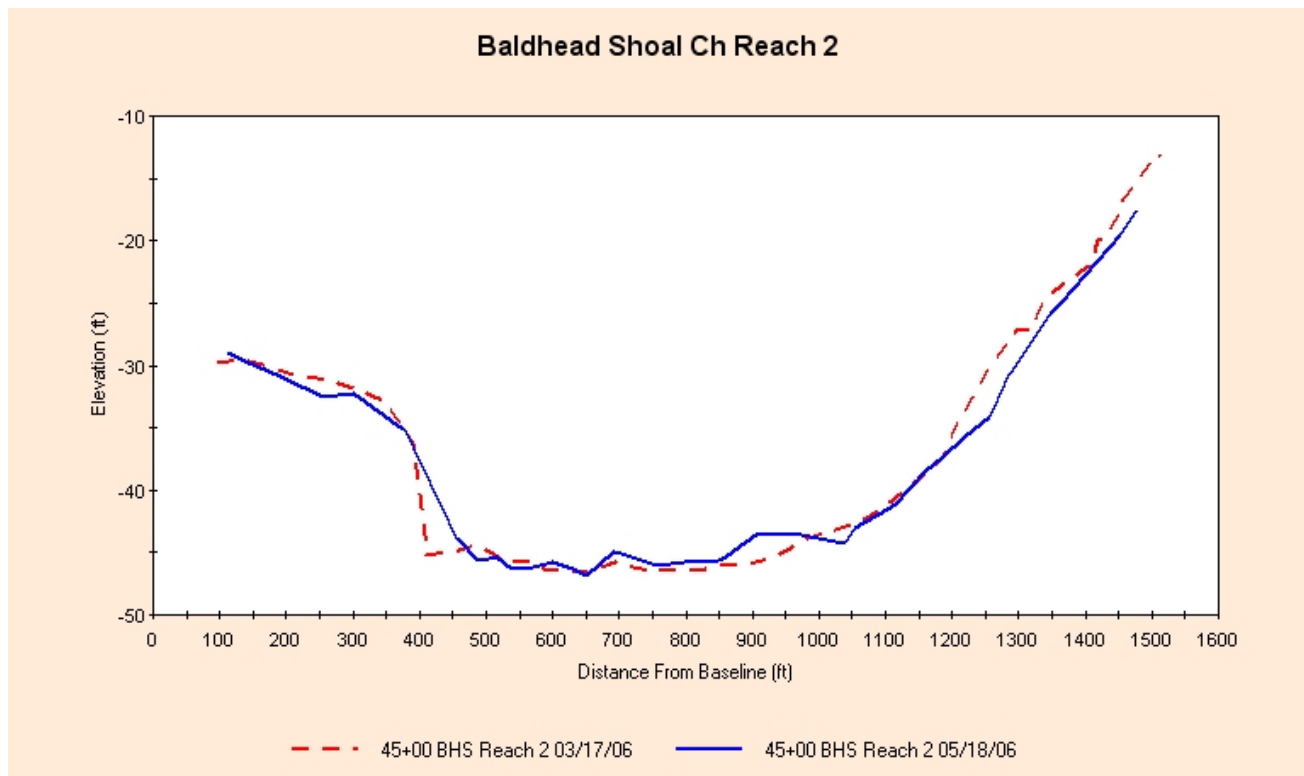


Figure 15 Baldhead Shoal Station 45+00

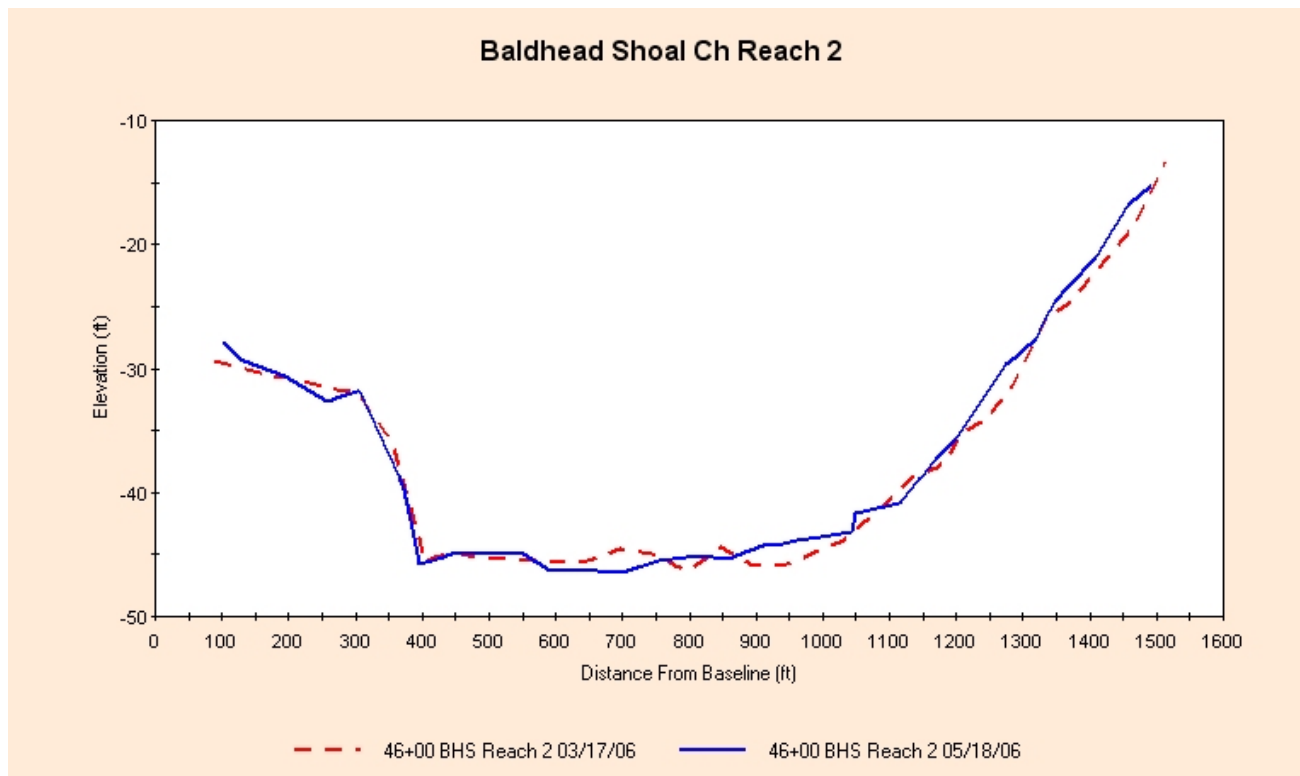


Figure 15 Baldhead Shoal Station 46+00